



Maternal and neonatal outcomes of labor induction using Misoprostol

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Introduction

Induction of labor is a therapeutic option when benefits of expeditious delivery outweigh the risks of continuing the pregnancy. By conducting this study, we sought to assess both maternal and neonatal outcomes of such a procedure.

Methodology and research tools

This mono-centric prospective observational was carried out in a level II maternity department in Tunisia among 75 parturients who delivered after induction of labor over a 6-month period extending from July 2020 to December 2020. Only singleton cephalic births occurring between 35 and 42 weeks of gestation presenting a medical indication for labor induction with unfavorable cervix were included. Misoprostol was administered at a dose of 50 µg every 8 hours without exceeding 3 doses. Progresses of labor, modalities of delivery, occurrence of an eventual complication in the course of induction, as well as the newborns' outcome were surveyed.

Results

The average maternal age was around 28 years. 65% of the parturients were primiparous. The main indication for labor induction was advanced term (≥ 41): 38.7%. 60% of the parturients went into labor after a single dose of Misoprostol, while 19% required 3 doses. The main side effects observed were headaches, as well as tachycardia and vomiting,

Results

Vaginal examination performed before labor induction concluded that the Bishop score was ≤ 3 in 72% of parturients. 81% of the laboring women had reached the active stage of labor within a mean time of 16 hours. The overall labor duration ranged from 40 minutes to 20 hours with an average delay of 6 hours. 75% of our patients delivered vaginally. Operative vaginal delivery by forceps was required in 12 patients. The main indications for cesarean section were failure of cervical ripening (39%), acute fetal distress and failure of fetal head engagement. Abnormalities in fetal heart rhythm were detected in 23% of cases, 9% of which were critical and required an emergent extraction by cesarean section. 10 women experienced postpartum hemorrhage, all managed by medical resuscitation. We have not encountered any uterine hyper stimulation, rupture nor sphincter injuries. The mean birth weight was 3360g [2200-4300g]. 98% of newborns had an Apgar score > 7 at 5 minutes. 12% of newborns required resuscitation in the delivery room, out of which 8% were admitted to neonatal intensive care unit. In our study, the Bishop score cut-off that provided the best balance between sensitivity and specificity for predicting induction success was equal to 3. (Sen=50%, Spe=65,5%, PPV= 80,6%, NPV=23,1%.).

Discussion

Induction of labor is a common obstetric procedure which is indicated when the benefits to the mother or fetus outweigh the benefits of continuing the pregnancy [1,2]. One of the most common indication for labor inductions is post term pregnancy, representing 38,7% of the cases in our study. Induction for this indication has been shown to reduce the likelihood of perinatal death[3]. In fact, a policy of labor induction was associated with fewer perinatal deaths. Women in the induction arms of the trials were probably less likely to have a caesarean section compared with expectant management and fewer babies went into the neonatal intensive care unit [4]. In our study, we did not note a significant difference in maternal nor neonatal outcomes. However, we have noticed an overall increased time in labor and delivery in the induced patients, which is similar to the results reported in several studies [5, 6]. Many researchers suggest that an unfavorable Bishop score is associated with unsuccessful induction. We were not able to establish an optimal cut-off for the use of Misoprostol, yet a Bishop score equal to 3 seemed to provide the best trade-off between sensitivity and specificity for predicting the success of labor induction.

Conclusion

Vaginal Misoprostol for labor induction is a substantial option but this is not without attendant complications and failures which can be significantly reduced with proper patient selection as well as adequate monitoring to ensure a favorable outcome for both mother and child.

Références

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